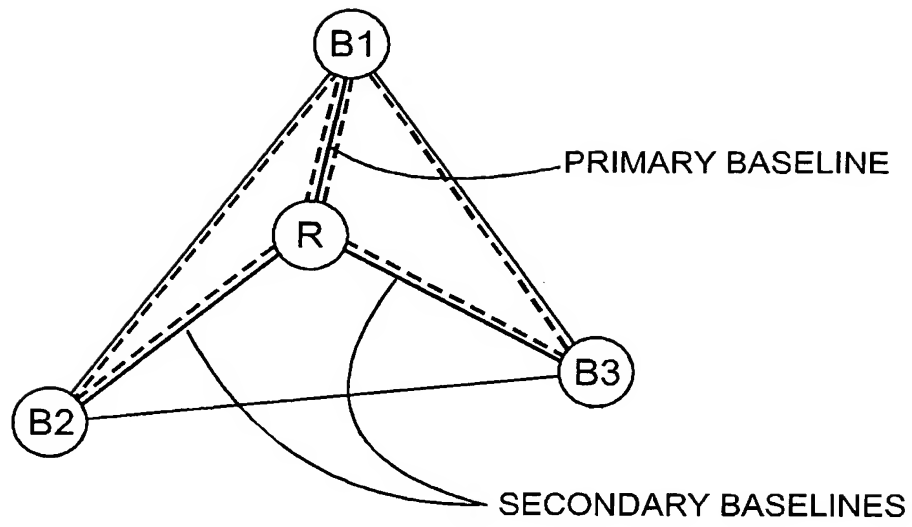
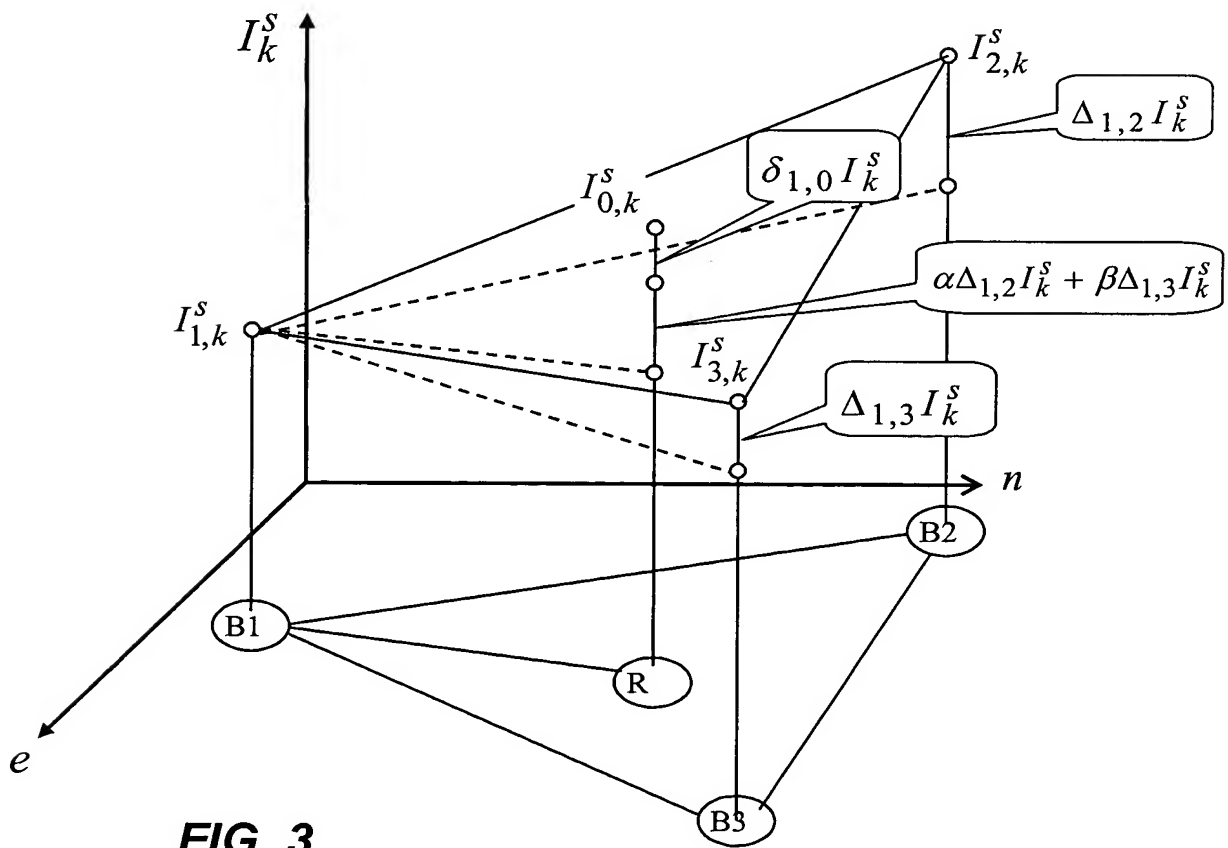
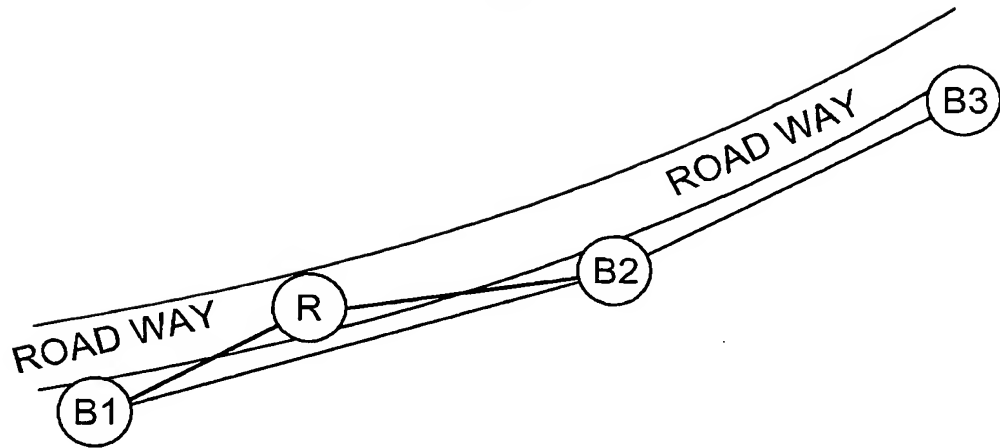
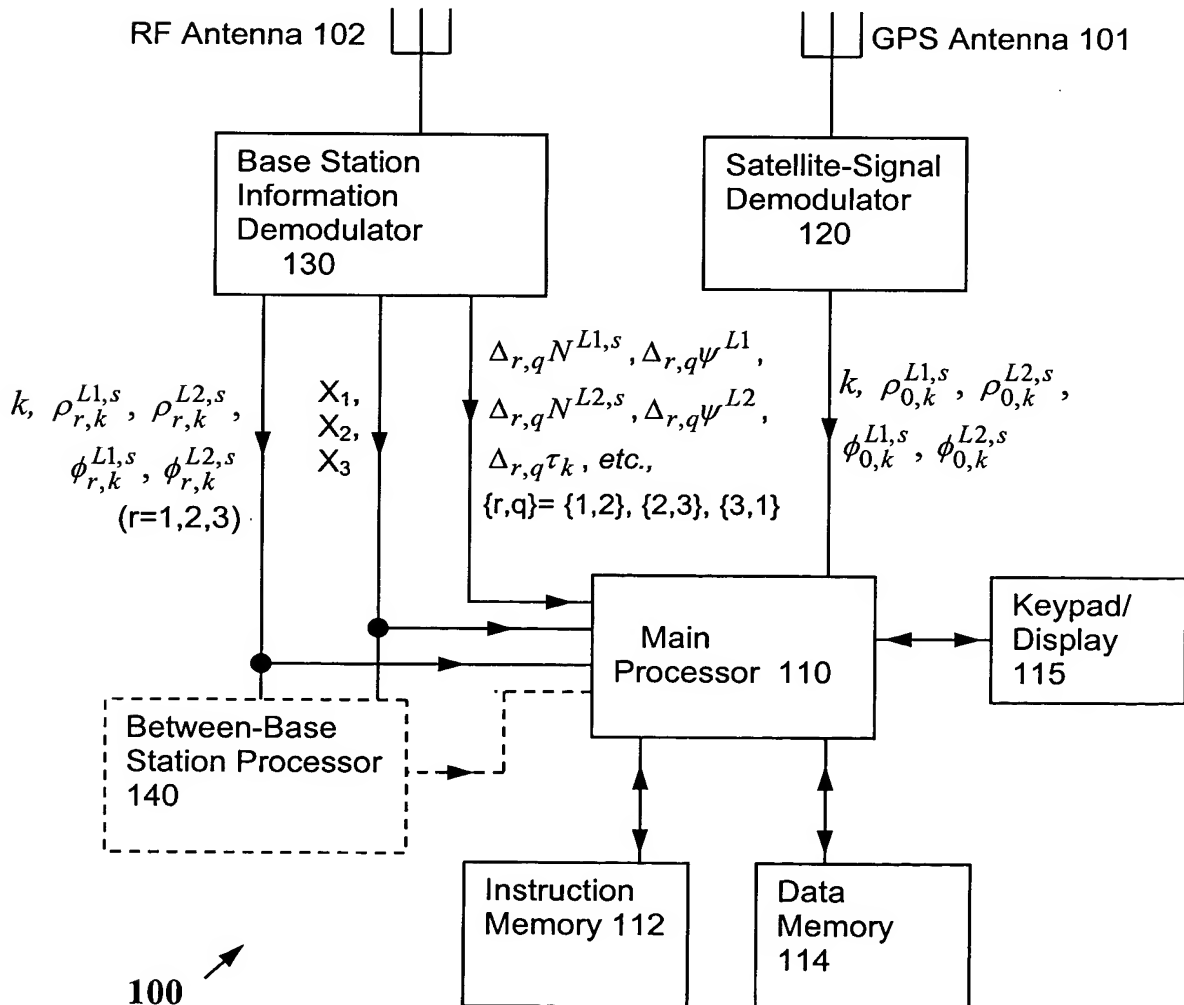
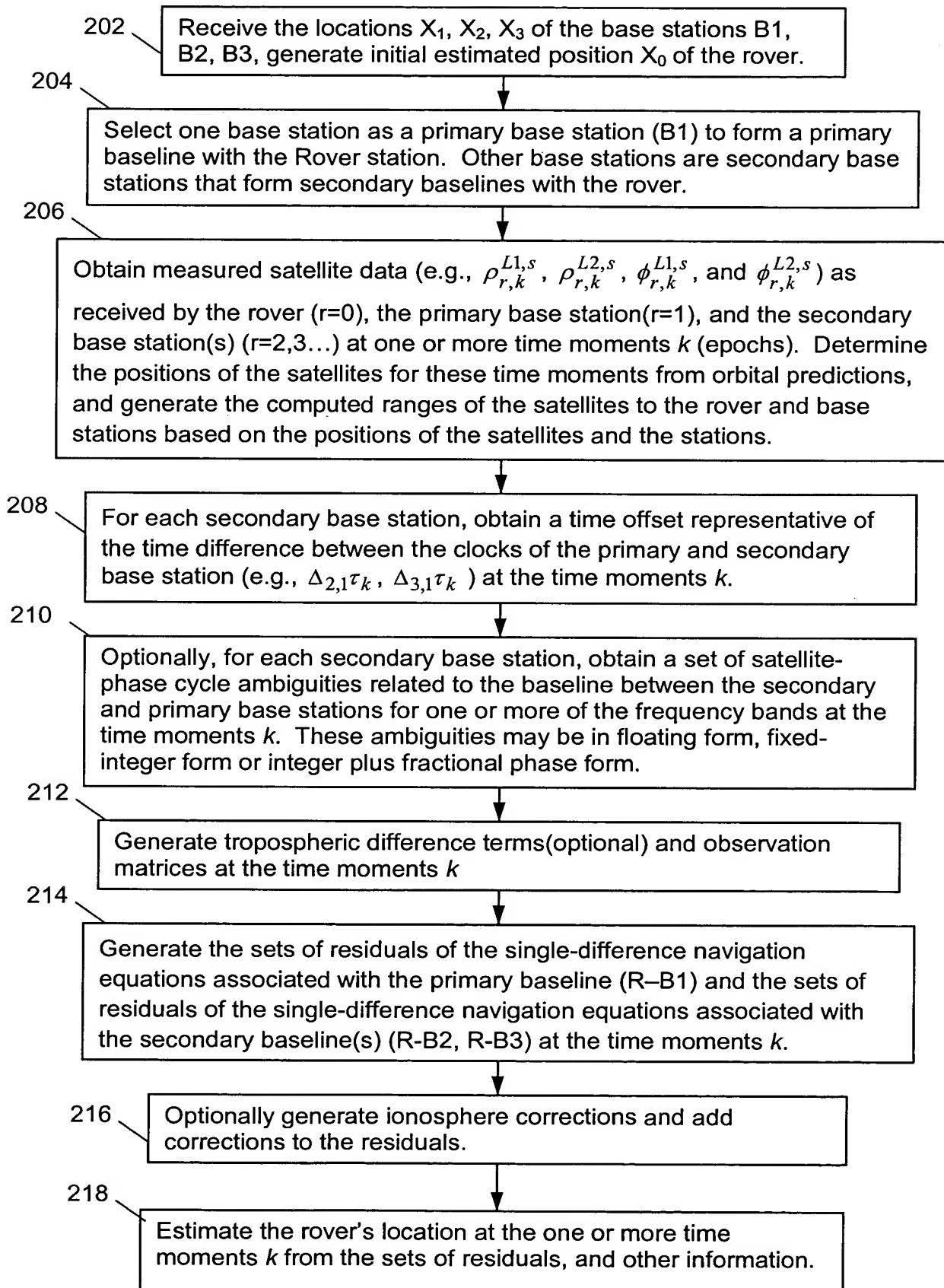


FIG. 1

**FIG. 2****FIG. 3**

**FIG. 4****FIG. 5**

**FIG. 6**

Instruction Set #1 directs the data processor to receive the known positions of the base stations

Instruction Set #2 directs the data processor to obtain a first time offset representative of the time difference between the clocks of the first and second base stations

Instruction Set #3 directs the data processor to obtain a second time offset representative of the time difference between the clocks of the first and third base stations

Instruction Set #4 directs the data processor to obtain a third time offset representative of the time difference between the clocks of the second and third base stations

Instruction Set #5 directs the data processor to generate a first set of residuals of differential navigation equations associated with a first baseline (R-B1) between the rover and the first base station, the residuals being related to the measured pseudo-range satellite data received by the rover station and the first base station, the locations of the satellites, and the locations of the rover station and the first base station

Instruction Set #6 directs the data processor to generate a second set of residuals of differential navigation equations associated with a second baseline (R-B2) between the rover and the second base station, the residuals being related to the measured pseudo-range satellite data received by the rover station and the second base station, the locations of the satellites, and the locations of the rover station and the second base station

Instruction Set #7 directs the data processor to generate a third set of residuals of differential navigation equations associated with a third baseline (R-B3) between the rover and the third base station, the residuals being related to the measured pseudo-range satellite data received by the rover station and the third base station, the locations of the satellites, and the locations of the rover station and the third base station

Instruction Set #8 directs the data processor to obtain a first set of satellite carrier-phase cycle ambiguities associated with the baseline between the first and second base stations

Instruction Set #9 directs the data processor to obtain a second set of satellite carrier-phase cycle ambiguities associated with the baseline between the first and third base stations

Instruction Set #10 directs the data processor to obtain a third set of satellite carrier-phase cycle ambiguities associated with the baseline between the second and third base stations

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FIG. 7A

FIG. 7A

FIG. 7B

Instruction Set #11 directs the data processor to generate a first set of carrier-phase-based residuals for the first baseline (R-B1) between the rover and the first base station, the first set of carrier-phase-based residuals of differential navigation equations being related to at least the measured satellite carrier-phase data received by the rover station and the first base station, the locations of the satellites, and the locations of the rover station and the first base station

Instruction Set #12 directs the data processor to generate a second set of carrier-phase-based residuals of differential navigation equations for the second baseline (R-B2) between the rover and the second base station, the second set of carrier-phase-based residuals being related to at least the measured satellite carrier-phase data received by the rover station and the second base station, the locations of the satellites, and the locations of the rover station and the second base station

Instruction Set #13 directs the data processor to generate a third set of carrier-phase-based residuals of differential navigation equations for the third baseline (R-B3) between the rover and the third base station, the third set of carrier-phase-based residuals being related to at least the measured satellite carrier-phase data received by the rover station and the third base station, the locations of the satellites, and the locations of the rover station and the third base station

Instruction Set #14 directs the data processor to obtain a first set of first ionosphere delay differentials associated with the satellite signals received along the base line formed by the first and second base stations

Instruction Set #15 directs the data processor to obtain a second set of second ionosphere delay differentials associated with the satellite signals received along the base line formed by the first and third base stations

Instruction Set #16 directs the data processor to obtain a third set of second ionosphere delay differentials associated with the satellite signals received along the base line formed by the second and third base stations

Instruction Set #17 directs the data processor to generate corrections to one or more of the residuals, the corrections being related to the first set of first ionosphere delay differentials, the second set of second ionosphere delay differentials, the locations of the base stations, and an estimated location of the rover station, wherein one or more of the sets of the instructions which direct the processor to generate the residuals further comprises instructions to modify their respective residuals with the corrections

Instruction Set #18 directs the data processor to generate an estimate of the rover's location from the sets of residuals, the time offsets between the clocks of the base stations, the sets of the carrier-phase-based residuals, and the sets of satellite-phase cycle ambiguities

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FIG. 7B